

### **Amendments to the Claims**

This listing of claims replaces without prejudice all prior versions and listings of claims in the application:

#### **Listing of Claims:**

Claims 1-3. (Cancelled).

4. (Previously presented) A computer-implemented method of determining the risk associated with a user's portfolio by simulating changes to the composition of a simulated dynamic portfolio under a plurality of possible future scenarios at a plurality of future time steps, each of the possible future scenarios having associated therewith a probability of the scenario occurring, said method comprising the steps of

- (a) generating a simulated dynamic portfolio, said simulated dynamic portfolio comprising a plurality of simulated instruments and having an initial composition that corresponds to the composition of the user's portfolio;
- (b) defining at least one rule for a trading strategy in at least one trade manager for use in a simulation in which changes to the composition of said simulated dynamic portfolio are to be simulated, wherein said defining step is performed prior to executing said simulation, and wherein said at least one rule is dependent on at least one tracking attribute, on at least one tracking position, and on at least one trade position;
- (c) selecting one of said plurality of possible future scenarios under which said simulation is to be performed;
- (d) executing a simulation under the possible future scenario selected in step (c) at said plurality of future time steps, wherein the current time step is initially the first time step of said plurality of future time steps, wherein the

composition of the simulated dynamic portfolio at the first time step is set to the initial composition of the simulated dynamic portfolio as generated at step (a), and wherein the following substeps are performed:

- i. valuing said simulated dynamic portfolio at the current time step of said plurality of future time steps, wherein said valuing step comprises retrieving at least one risk value for each of one or more subsets of said simulated instruments in said simulated dynamic portfolio from a database, wherein said database comprises a plurality of values for risk factors associated with said selected possible future scenario and said current time step, wherein said database further comprises a plurality of risk values computed by evaluating one or more instrument models employing one or more of said risk factors, each of said plurality of risk values being associated with an individual simulated instrument or pre-selected group of simulated instruments;
- ii. simulating changes to said simulated dynamic portfolio by evaluating said at least one rule to produce a changed simulated dynamic portfolio, wherein said changes are dependent on the value of said at least one tracking attribute at the current time step and on said selected possible future scenario, wherein said simulated dynamic portfolio becomes said changed simulated dynamic portfolio after said changed simulated dynamic portfolio is produced;
- iii. setting the current time step to the next time step of said plurality of future time steps and repeating substeps (i) and (ii);
- iv. repeating substep (iii) until said simulated dynamic portfolio has been valued at all of said plurality of future time steps;

- (e) repeating steps (c) and (d) for each remaining possible future scenario of said plurality of possible future scenarios; and
- (f) producing an output risk metric, wherein said output risk metric is dependent on at least one risk value stored in said database and the composition of the simulated dynamic portfolio under at least one of said plurality of possible future scenarios;

wherein for at least one simulation executed at step (d), the simulating substep performed therein comprises invoking a risk engine in generating one or more simulated instruments not existing at the time said at least one simulation is executed by evaluating an instrument model that employs one or more of said risk factors, and adding said generated simulated instruments to the simulated dynamic portfolio in producing a changed simulated dynamic portfolio.

5. (Previously presented) The method as claimed in claim 4, wherein said at least one rule comprises a condition, and wherein said at least one rule is evaluated in substep (ii) of step (d) only when said condition is satisfied.

6. (Previously presented) The method as claimed in claim 5, wherein said at least one rule is selected from the following group: a band rule, a barrier rule, a comparison rule, a functional rule, and a composite rule.

7. (Previously presented) The method as claimed in claim 4, wherein each of said at least one rule is assigned a priority.

8. (Previously presented) The method as claimed in claim 7, wherein each of said at least one rule is evaluated in substep (ii) of step (d) in order of priority.

9. (Previously presented) The method as claimed in claim 4, wherein each of said plurality of instruments is one of the following: a financial instrument; a non-financial instrument.

10. (Previously presented) The method as claimed in claim 4, wherein a filter is used with at least one of said at least one rule.

11. (Previously presented) A computer-readable medium, wherein a plurality of data structures defining a simulated dynamic portfolio for use with a risk management system in a simulation are embodied on said computer-readable medium, said simulated dynamic comprising a plurality of simulated instruments, the composition of said simulated dynamic portfolio being changeable under a plurality of possible future scenarios at a plurality of future time steps by a trade manager, each of the possible future scenarios having associated therewith a probability of the scenario occurring, said simulated dynamic portfolio comprising:

- (a) a holdings data structure indicating simulated instruments and their quantity in said simulated dynamic portfolio; and
- (b) a strategy definitions data structure indicating a trade manager in which at least one rule for a trading strategy is defined, wherein said at least one rule is dependent on at least one tracking attribute, on at least one tracking position, and on at least one trade position, wherein said at least one rule is defined prior to executing said simulation;

wherein for each of said plurality of possible future scenarios at each of said plurality of future time steps, said at least one trade manager simulates changes to said simulated dynamic portfolio by valuing said simulated dynamic portfolio and evaluating said at least one rule to produce a changed simulated dynamic portfolio, wherein said changes are dependent on the value of said at least one tracking attribute at the current time step and on the respective

possible future scenario, wherein said simulated dynamic portfolio becomes said changed simulated dynamic portfolio after said changed simulated dynamic portfolio is produced, wherein said changes to said simulated dynamic portfolio are reflected in said holding structure;

wherein said valuing comprises retrieving at least one risk value for each of one or more subsets of said simulated instruments in said simulated dynamic portfolio from a database, wherein said database comprises a plurality of values for risk factors associated with said respective possible future scenario and said current time step, wherein said database further comprises a plurality of risk values computed by evaluating one or more instrument models employing one or more of said risk factors, each of said plurality of risk values being associated with an individual simulated instrument or pre-selected group of simulated instruments;

and wherein for at least one of said plurality of possible future scenarios at one or more future time steps, said trade manager invokes a risk engine in generating one or more simulated instruments not existing at the time said at least one simulation is executed by evaluating an instrument model that employs one or more of said risk factors, and adds said generated simulated instruments to the simulated dynamic portfolio in producing a changed simulated dynamic portfolio.

12. (Previously presented) The computer-readable medium as claimed in claim 11, wherein said at least one rule comprises a condition, and wherein said at least one rule is evaluated only when said condition is satisfied.

13. (Previously presented) The computer-readable medium as claimed in claim 12, wherein said at least one rule is selected from the following group: a band rule, a barrier rule, a comparison rule, a functional rule, and a composite rule.

14. (Previously presented) The computer-readable medium as claimed in claim 11, wherein each of said at least one rule is assigned a priority.

15. (Previously presented) The computer-readable medium as claimed in claim 14, wherein each of said at least one rule is evaluated in order of priority.

16. (Previously presented) The computer-readable medium as claimed in claim 11, wherein each of said plurality of instruments is one of the following: a financial instrument; a non-financial instrument.

17. (Previously presented) The computer-readable medium as claimed in claim 11, wherein a filter is used with at least one of said at least one rule.

18. (Previously presented) A risk management system operable on a plurality of instruments, said system comprising:

- (a) at least one risk engine adapted to determine a risk value for each simulated instrument of a plurality of simulated instruments, said risk value determined by evaluating an instrument model that employs one or more risk factors for said simulated instrument under one of a plurality of possible future scenarios;
- (b) a database to store risk values of said plurality of simulated instruments and a plurality of values for risk factors, wherein each risk factor is associated with a possible future scenario and time step;
- (c) a simulated dynamic portfolio of simulated instruments, the composition of said simulated dynamic portfolio being changeable under said plurality of possible future scenarios at a plurality of future time steps, each of the possible future scenarios having associated therewith a probability of the

scenario occurring, said simulated dynamic portfolio comprising a holding structure indicating simulated instruments and their quantity in said simulated dynamic portfolio and a strategy structure indicating a trade manager in which at least one rule for a trading strategy is defined, wherein said at least one rule is dependent on at least one tracking attribute, on at least one tracking position, and on at least one trade position, wherein said at least one rule is defined prior to executing said simulation;

wherein for each of said plurality of possible future scenarios at each of said plurality of future time steps, said at least one trade manager simulates changes to said simulated dynamic portfolio by valuing said simulated dynamic portfolio and evaluating said at least one rule to produce a changed simulated dynamic portfolio, wherein said changes are dependent on the value of said at least one tracking attribute at the current time step and on the respective possible future scenario, wherein said simulated dynamic portfolio becomes said changed simulated dynamic portfolio after said changed simulated dynamic portfolio is produced, wherein said changes to said simulated dynamic portfolio are reflected in said holding structure;

wherein said valuing comprises retrieving at least one risk value for each of one or more subsets of said simulated instruments in said simulated dynamic portfolio from a database, wherein said database comprises a plurality of values for risk factors associated with said respective possible future scenario and said current time step, wherein said database further comprises a plurality of risk values computed by evaluating one or more instrument models employing one or more of said risk factors, each of said plurality of risk values being associated with an individual simulated instrument or pre-selected group of simulated instruments;

and wherein for at least one of said plurality of possible future scenarios at one or more future time steps, said trade manager invokes a risk engine in generating one or more simulated instruments not existing at the time said at least one simulation is executed by evaluating an instrument model that employs one or more of said risk factors, and adds said generated simulated instruments to the simulated dynamic portfolio in producing a changed simulated dynamic portfolio; and

- (d) an aggregating engine adapted to retrieve said risk values from said database to produce an output risk metric dependent on at least one risk value stored in said database and the composition of said simulated dynamic portfolio under at least one of said plurality of possible future scenarios.

19. (Previously presented) The system as claimed in claim 18, wherein said at least one rule comprises a condition, and wherein said at least one rule is evaluated only when said condition is satisfied.

20. (Previously presented) The system as claimed in claim 19, wherein said at least one rule is selected from the following group: a band rule, a barrier rule, a comparison rule, a functional rule, and a composite rule.

21. (Previously presented) The system as claimed in claim 18, wherein each of said at least one rule is assigned a priority.

22. (Previously presented) The system as claimed in claim 21, wherein each of said at least one rule is evaluated in order of priority.

23. (Previously presented) The system as claimed in claim 18, wherein each of said plurality of instruments is one of the following: a financial instrument; a non-financial instrument.

24. (Previously presented) The system as claimed in claim 18, wherein a filter is used with at least one of said at least one rule.

25. (Previously presented) The method as claimed in claim 4, wherein said trade manager comprises:

- a rule structure comprising said at least one rule for said trading strategy;
- a tracking position list indicating at least one of tracked instruments and tracked positions;
- a tracking attribute list indicating one or more tracked quantities;
- a target vector indicating one or more desired trade results;
- a trade position list indicating at least one of tradable instruments and tradable positions; and
- a funding position list indicating instruments and positions that are tradable to fund said trading strategy.

26. (Previously presented) The method as claimed in claim 25, wherein at least some of the positions indicated in the funding position list are defined such that they are only available after a period of time has elapsed.

27. (Previously presented) The computer-readable medium as claimed in claim 11, wherein said trade manager comprises:

- a rule structure comprising said at least one rule for said trading strategy;
- a tracking position list indicating at least one of tracked instruments and tracked positions;
- a tracking attribute list indicating one or more tracked quantities;
- a target vector indicating one or more desired trade results;
- a trade position list indicating at least one of tradable instruments and tradable positions; and
- a funding position list indicating instruments and positions that are tradable to fund said trading strategy.

28. (Previously presented) The computer-readable medium as claimed in claim 27, wherein at least some of the positions indicated in the funding position list are defined such that they are only available after a period of time has elapsed.

29. (Previously presented) The system as claimed in claim 18, wherein said trade manager comprises:

- a rule structure comprising said at least one rule for said trading strategy;

- a tracking position list indicating at least one of tracked instruments and tracked positions;

- a tracking attribute list indicating one or more tracked quantities;

- a target vector indicating one or more desired trade results;

- a trade position list indicating at least one of tradable instruments and tradable positions; and

- a funding position list indicating instruments and positions that are tradable to fund said trading strategy.

30. (Previously presented) The system as claimed in claim 29, wherein at least some of the positions indicated in the funding position list are defined such that they are only available after a period of time has elapsed.